

REMARKS

The drawings are objected to under 37 CFR 1.83(a). The Examiner stated that the drawings do not show every feature of the invention specified in the claims. The Examiner stated that therefore, "disc-shaped reactive strip" recited in claim 7, and "dome-shaped shapes" recited in claims 8 and 9, must be shown or the feature(s) canceled from the claim(s).

Claims 7-10 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner stated that claim 7 recites "said push button pushes against said multi-metallic heat reactive strip to reset it to said second shape." The aforementioned recitation contradicts with parent claim 4, which recites that "said manually resetting means snaps said multi-metallic heat reactive strip back to said first shape."

Claims 1-5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hsieh (Reference L: U.S. Patent No. 4,635,021). Regarding claims 1 and 2, the Examiner stated that Hsieh discloses (Fig. 2) a device for interrupting a load circuit and indicating a current overload condition comprising: first (12) and a second (12') electrodes being coupled to a load circuit,

said load circuit having source of electrical power (inherently) to connect to current load; a light emitter circuit (3,4) having an indicator lamp (3) serially connected to a current limiting resistor (4), said light emitter circuit being connected to said first electrode (12); and a multi-metallic heat reactive strip (13) connected to said first and second electrodes (12, 12') having a first shape to close said load circuit, and said heat reactive strip being heated by overload current, said overload current creating the only forces to snap into a second shape to open said load circuit and close said light emitter circuit (via contact (2); column 2, lines 48-58), said indicator lamp (3) of said light emitter circuit radiating light to visually indicate said current exceeding a predetermined overload magnitude and said open load circuit.

Regarding claims 3 and 4, the Examiner stated that Hsieh discloses means (14) for manually resetting said heat reactive strip (13) back from said second shape to said first shape.

Regarding claim 5, the Examiner stated Hsieh discloses a housing (1) having said first and second electrodes (12, 12') extending from its bottom and said manually resetting means (14) and said indicator lamp (3) extending from its top surface, (Fig. 2).

The Examiner rejected claim 7 and claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Hsieh in view of Maue et al.

(Reference M: U.S. Patent No. 5,995,380). Regarding claims 6 and 7, the Examiner stated that Hsieh discloses all of the claims limitations as apply to claim 5, and further that a push button resetting means (14) is extending through the housing (1), wherein said push mutton (14) pushes against said heat reactive strip (13) to reset it to said first shape after cooling, and (as shown on Fig. 3) that electrodes (71, 71') of the load circuit are inserted into sockets (121, 121') of the device housing (1), but not the opposite, i.e., that electrodes of the device are inserted into the sockets of the load circuit, as claimed in claim 6.

The Examiner stated, that Maue et al. discloses (Fig. 2) an electrical junction box for automobiles, wherein protective devices (17) and electrical components (19) comprising electrodes, which are inserted into the sockets of a circuit.

The Examiner stated that since the inventions of Hsieh and of Maue et al. are from the same field of endeavor (plugable electrical components), the purpose of the devices having electrodes that are inserted into the sockets of the circuit disclosed by Maue et al. would be recognized for the invention of Hsieh.

The Examiner stated that it would have been obvious to a person of ordinary skill in the plugable electrical devices art at the time the invention was made to reverse said electrodes

and sockets in the device of Hsieh (i.e. to provide electrodes for the device (1) and sockets for the load circuit (7)) in order to enhance electrical safety of the device of Hsieh (i.e. to eliminate the exposure of the energized electrodes (71)).

The Examiner stated alternatively, it would have been obvious to one having ordinary skill in the plugable electrical devices art at the time the invention was made to reverse said electrodes and sockets in the device of Hsieh (i.e. provide electrodes for the device (1) and sockets for the load circuit (7)), since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

These rejections are respectfully traversed.

Hsieh appears to disclose an automatic overload tripper which uses a push button to press a bent bimetal strip down against a spring which assures that a hook at an end of the bimetal strip can keep good electrical contact with a contact plate, and the hook can trip automatically at overload. The spring also pushes against the bimetal strip so that it will not restore its original position by itself after cooling, for safety purposes.

Maue et al., appear to disclose an electrical junction box having a first insulating polymeric portion and a second polymeric portion defining multiple electrically conductive

circuits. The circuits are at least partially separated by the first insulating polymeric portion and at least some of the circuits electrically connect together wire harness connector portions. A further aspect of the present invention junction box causes a section of the first insulating polymeric portion to concurrently act as a segment of an outer protective cover for the junction box.

Applicants teach a circuit interrupter device that protects a load circuit from excessive, or overloading levels of current, provides a visual indication of circuit overload and open circuit, and can be reset. A multi-metallic heat reactive strip is snapped by an overload current to open the load circuit and close a light emitter circuit having a current limiting resistor connected to an indicator lamp that provides a visual indication of the open circuit. The multi-metallic strip is manually reset via a push button to open the light emitter circuit and extinguish the indicator lamp and close the load circuit to reestablish operation therein. The circuit interruption device can be made utilizing currently available technology for miniature fusing in tight, confining spaces and/or assemblies that have unusual shapes that restrict access in automobile electrical systems, test instruments, domestic appliances or many other electronic/electrical circuits.

Concerning claims 1-5, the Examiner cited Hsieh as anticipating the present invention under 35 U.S.C. § 102(b). However, Hsieh's use of a multi-metallic heat reactive strip (13) cannot perform the same function as the multi-metallic heat reactive strip in the present invention without a spring. Rather than change its shape, the multi-metallic heat reactive strip (13) as taught in Hsieh changes position through the action of the spring. The present invention is distinguishable in that it does not rely on a coiled spring but rather on the snap action of the multi-metallic heat reactive strip (14) shaped into a dome or disc. The present invention changes shape in such a way as to simultaneously open the circuit that is being overloaded and close the LED circuit. The only forces acting on the multi-metallic heat reactive strip (14) in the present invention are the stresses induced by the heat of running the overload current through the metal, not a spring. Eliminating the need for a spring is made possible by the particular shape of the multi-metallic heat reactive strip (14), which is designed to change its shape when heated sufficiently. By omitting the spring component, the present invention better lends itself to miniaturization for use in automobile fuse blocks, circuit boards and similar products. The physical configuration of the present invention makes it very compatible with existing automotive fuse junction boxes and permits the

present invention to replace fuses without modification. Hsieh does not disclose the same means for manually resetting said heat reactive strip (13) from said second shape to said first shape. The strip (13) in Hsieh is actually being repositioned rather than being changed in shape. It still retains its ninety degree angled hook shape. In the present invention, the shape of the strip (14) is physically changed. Hsieh does not disclose a first and second electrodes (12, 12') that are plugs but rather wire terminals that function in a different manner.

Applicants respectfully suggest that claims 1-5 should be allowable because Hsieh does not meet all of the stated claim limitations of the present invention.

Concerning claims 6 and 7, the Examiner stated that the present invention is obvious over the prior art Hsieh in view of Maue et al., under 35 U.S.C. § 103(a). However, there is no motivation in the prior art or in the Examiner's arguments to suggest that one of ordinary skill in the art would seek to combine the two references. In addition there is nothing in the prior art to teach how to combine both references. Applicants argue that even when combined, Hsieh and Maue et al. do not show similarity to the present invention in that the present invention does not use a coil spring loaded device as do the combined references.

Applicants respectfully suggest that claims 6 and 7 should be allowable by dependency as described above because Hseih alone does not meet all of the stated claim limitations, nor does it meet all of the stated claim limitations in combination with Maue et al.

Applicants have amended claim 7 to address the Examiner's rejection under 35 U.S.C. § 112 such that the recitation of claim 7 no longer contradicts parent claim 4.

Applicants note that claims 8-10 were not rejected on the basis of any prior art. Applicants therefore presume these claims would be allowable if written in independent form. Applicants have amended claims 8-10 such that claim 8 is now in independent form and claims 9 and 10 depend upon claim 8. Claim 8 as amended incorporates the limitation of a dome shape with the limitations of claim 1.

Applicants have added new claims 11-13 such that claim 11 is an independent claim and claims 12 and 13 depend on claim 11. Claim 11 incorporates all of the limitations of claim 1 and claim 8 and intervening dependant claims 2-6.

Applicants have added new dependent claim 14. Applicants bring to the attention of the Examiner that claim 14 uses a Markush Group to address the various shapes of the multi-metallic heat reactive strip.



In order to address the Examiner's objection to the drawings, Applicants have amended the specification to point out which of the drawings illustrate strip (14) in a dome shape and which drawings illustrated strip (14) in a disc shape. FIG. 4 is added to provide an illustration of strip (14) in a disc shape. Applicants reserve the right to further modify the drawings if the Examiner so desires.

No new matter has been entered into the application by these amendments.

Applicants respectfully suggest in view of these remarks that all grounds for rejection and objection have been removed by the foregoing amendment. Reconsideration and allowance of this application are therefore earnestly solicited.

The Examiner is invited to phone Mr. Jean-Paul A. Nasser, attorney for Applicants, 401-832-4736, if in his opinion such phone call would serve to expedite the prosecution of subject patent application.

Respectfully submitted,

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